

IN THE CLAIMS

Add the following new claims:

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21. (Newly Added) A device for vaporization injection of a sample into a gas chromatography analysis instrument, comprising an elongated vaporization chamber, a syringe equipped with a needle within which is the sample that has not been vaporized, a stop and vaporization means for stopping injection of the sample and vaporizing liquid of the sample within the elongated vaporization chamber, means for heating at least part of the elongated vaporization chamber to a temperature above a vaporization temperature of the sample, a distance between a free end of the needle and the stop and vaporization means being greater than 55 mm.

22. (Newly Added) A device as in claim 21, further comprising heating means for the elongated vaporization chamber, the heating means being arranged and configured to vaporize all the sample towards a base of the elongated vaporization chamber and provide a temperature in an upper part of the vaporization chamber that is lower (then) at the base. H & A

23. (Newly Added) A vaporization method for a sample injected via a syringe with a needle within a vaporization chamber of a gas chromatography analysis instrument, comprising heating at least a lower portion of the vaporization chamber to a temperature above a vaporization temperature of a sample to be analyzed, injecting the sample in correspondence or in proximity of an upper portion of the vaporization chamber, releasing the sample in form of a liquid band crossing the vaporization chamber at a

speed, stopping the liquid band by stop means; and vaporizing the sample in a lower portion of the heated chamber.

24. (Newly Added) A vaporization method as in claim 23, wherein the heating of the lower portion of the chamber includes heating to vaporize all of the sample, further comprising heating an upper part of the vaporization chamber to a temperature that is less than that within the lower portion of the vaporization chamber.
